PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in or relating to Shaft Packings

We, (Mrs.) EMMA BACH, a German Citizen, of Aussere Rosenbergstrasse 24, Heilbronn, Germany, and (Dr.) ALBERT KLEIN, a German Citizen, of Archivstrasse 14, Stuttgart, Germany, sole proprietors of the firm Kupfer-Asbest-Co., Gustav Bach, Heilbronn, of Heilbronn, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to a packing for the sealing off of shafts, in particular revolving shafts in which a resilient packing ring revolves with the shaft, and has a packing lip which is pressed against a surface firmly connected with the frame or casing of the machine. A drawback of such packings is the fact that, as a result of the frictional heat occurring at the packing points, the collar easily burns, or at any rate becomes so damaged that a perfectly satisfactory sealing is no longer possible, and in order to avoid such disadvantage, it has already been proposed to provide centrifugal weight means for easing the packing lip away from the sealing surface as the speed rises.

According to the present invention, the tensions occurring in the resilient packing lip as a result of centrifugal force increasingly counteract the pressing on pressure of the packing lip, the said pressure being so proportioned that when a certain speed is exceeded, the lip of the ring lifts a little from the packing surface, whereupon admission of the fluid to be sealed to the gap formed thereby is prevented by the jacket-like carrying ring of the packing ring which is constructed as a throwing ring and which is firmly connected with the shaft.

An example of construction of a shaft packing according to the invention is shown diagrammatically in the accompanying drawings, in which:—

Figure 1 is an axial sectional view with the shaft stationary.

Figure 2 is a similar view at a high speed of revolution.

Figure 3 is an end view of the packing ring and the casing.

On the shaft 1, there is firmly keyed on a metal casing 2 in which a packing ring 3 consisting of resilient material is gripped. When stationary, the ring bears resiliently against an annular packing surface 5 firmly connected with the frame 4 of the machine, in such a manner that the passage of fluid from the inner chamber A to the outer chamber B is reliably prevented.

The packing ring 3 is so installed that the lip of the packing tends under the influence of centrifugal force to lift from the packing surface 5 on rotation of the shaft. If the speed of rotation is increased beyond a certain limit, there finally occurs a complete lifting of the packing ring 3 from the annular surface 5, as shown, for instance, in Fig. 2. Owing to the throwing-ring-like construction of the outer rim 7 of the casing or jacket 2, a throwing off of the fluid approaching the packing is effected so that the passage of fluid through the gap 8 is prevented.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A shaft packing, in which a resilient packing ring revolves with the shaft and has a packing lip which is pressed against a surface firmly connected with the frame or casing of the machine, characterised by the feature, that with increasing speed of the shaft, the tensions occurring in the resilient packing lip as a result of centrifugal force increasingly counteract, the pressing on pressure of the packing lip, the said pressure being so proportioned that when a certain speed is exceeded, the lip of the ring lifts a little from the packing surface, whereupon admission of the fluid to be sealed to the gap formed thereby is prevented by the jacket-like carrying ring of the packing ring, which is constructed as a throwing ring and which is firmly connected with the shaft.

2. A shaft packing as particularly de-

scribed with reference to the accompanying drawings.

Dated this 6th day of December, 1937.

W. P. THOMPSON & CO.,
12, Church Street, Liverpool, 1,
Chartered Patent Agents.

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Fig. 1.

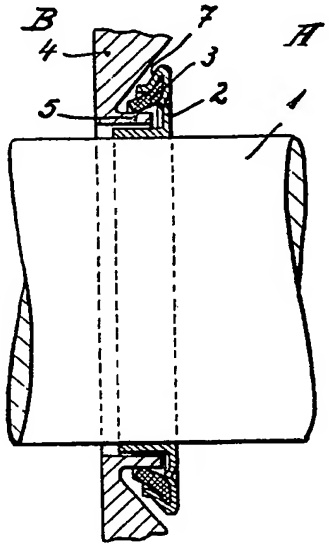
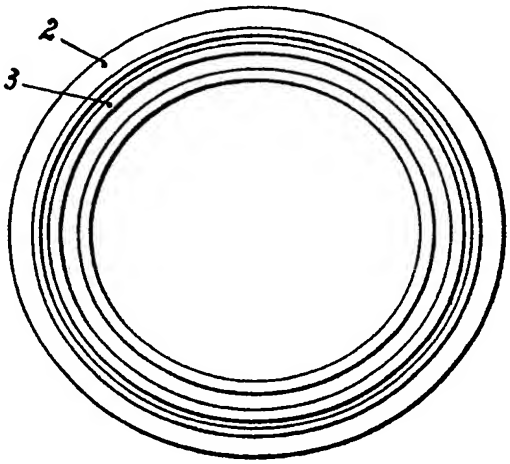


Fig. 3.



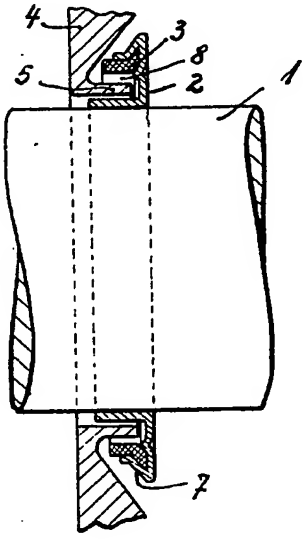


Fig. 2.

Malby & Sons, Photo-Litho.